

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

## PCT

To: PAUL KROON  
GROSSMAN, TUCKER, PERREAULT &  
PFLEGER, PLLC  
55 SO. COMMERCIAL ST.  
MANCHESTER, NH 03101

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

<div style="font-size: 2em; font-weight: bold; letter-spacing: 0.5em;">R E C E I V E D</div>		Date of mailing (day/month/year)
Applicant's or agent's file reference  <b>ART052PCT</b>		<b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below
International application No. PCT/US2010/025464  <b>GROSSMAN, TUCKER, PERREAULT &amp; PFLEGER, PLLC</b>	International filing date (day/month/year) <b>25 February 2010</b>	
Applicant <b>ARTHROSURFACE INCORPORATED</b>		

1.	<input checked="" type="checkbox"/>	The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith. <b>Filing of amendments and statement under Article 19:</b> The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): <b>When?</b> The time limit for filing such amendments is normally two months from the date of transmittal of the international search report. <b>Where?</b> Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70 <b>For more detailed instructions,</b> see the notes on the accompanying sheet.
2.	<input type="checkbox"/>	The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3.	<input type="checkbox"/>	<b>With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:</b> <input type="checkbox"/> the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices. <input type="checkbox"/> no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
4.	<b>Reminders</b> Shortly after the expiration of <b>18 months</b> from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication. The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date. Within <b>19 months</b> from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase <b>until 30 months</b> from the priority date (in some Offices even later); otherwise, the applicant must, <b>within 20 months</b> from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of <b>30 months</b> (or later) will apply even if no demand is filed within 19 months. See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the <i>PCT Applicant's Guide</i> , Volume II, National Chapters and the WIPO Internet site.	

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer:  Blaine R. Copenheaver  Telephone No. 571-272-7774
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# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: PAUL KROON  
GROSSMAN, TUCKER, PERREAULT &  
PFLEGER, PLLC  
55 SO. COMMERCIAL ST.  
MANCHESTER, NH 03101

## PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing  
(day/month/year) **03 MAY 2010**

Applicant's or agent's file reference

ART052PCT

**FOR FURTHER ACTION** See paragraphs 1 and 4 below

International application No.

PCT/US2010/025464

International filing date  
(day/month/year)

25 February 2010

Applicant

ARTHROSURFACE INCORPORATED

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest against payment of (an) additional fee(s) under Rule 40.2,** the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

**4. Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-3201

Authorized officer:

Blaine R. Copenheaver

Telephone No. 571-272-7774

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference ART052PCT	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2010/025464	International filing date ( <i>day/month/year</i> ) 25 February 2010	(Earliest) Priority Date ( <i>day/month/year</i> ) 25 February 2009
Applicant ARTHROSURFACE INCORPORATED		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed.  
☐ a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant.  
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☐ the text is approved as submitted by the applicant.  
☒ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 14  
☒ as suggested by the applicant.  
☐ as selected by this Authority, because the applicant failed to suggest a figure.  
☐ as selected by this Authority, because this figure better characterizes the invention.
- b. ☐ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/025464

## Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A system for repairing a defect on an articular surface of a trochlear region, comprising a guide block comprising a body having an exterior surface configured to engage with the saddle portion and ridge portions of the patient's trochlear region, a protrusion extending generally from the body and configured to be received in a first bore formed in the articular surface along a reference axis, and a first cavity extending through the body configured to establish a first working axis displaced from the reference axis, wherein the exterior surface of the body and the protrusion are configured to secure the location of the guide block about the patient's trochlear region. A method for preparing an implant site in bone, comprising: establishing a reference axis extending from the bone; creating a bore in the bone by reaming about the reference axis; and securing a guide block about the articular surface.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/025464

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61F 2/38 (2010.01)

USPC - 623/20.14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - A61F 2/30, 2/38 (2010.01)

USPC - 623/20,14, 20.15, 20.16, 20.17, 20.18, 20.18, 20.2, 39

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent; Google Patents

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,984,248 B2 (HYDE, JR) 08 July 2003 (08.07.2003) entire document	1-11, 19-25
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Y		12-18
Y	US 2003/0225456 A1 (EK) 04 December 2003 (04.12.2003) entire document	12-18
Y	US 7,290,347 B2 (AUGOSTINO et al) 06 November 2007 (06.11.2007) entire document	18
A	US 4,788,970 A (KARA et al) 06 December 1988 (06.12.1988) entire document	1-25
A	US 4,920,958 A (WALT et al) 01 May 1990 (01.05.1990) entire document	1-25
A	US 5,616,146 A (MURRAY) 01 April 1997 (01.04.1997) entire document	1-25

☐ Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

15 April 2010

Date of mailing of the international search report

03 MAY 2010

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents

P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To: PAUL KROON  
GROSSMAN, TUCKER, PERREAULT &  
PFLEGER, PLLC  
55 SO. COMMERCIAL ST.  
MANCHESTER, NH 03101

Date of mailing (day/month/year) **03 MAY 2010**

Applicant's or agent's file reference  
**ART052PCT**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
**PCT/US2010/025464**

International filing date (day/month/year)  
**25 February 2010**

Priority date (day/month/year)  
**25 February 2009**

International Patent Classification (IPC) or both national classification and IPC  
**IPC(8) - A61F 2/38 (2010.01)**  
**USPC - 623/20.14**

Applicant **ARTHROSURFACE INCORPORATED**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Date of completion of this opinion  <p style="text-align: center;"><b>15 April 2010</b></p>	Authorized officer:  <p style="text-align: center;">Blaine R. Copenheaver</p> <p style="font-size: small;">PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/US2010/025464

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed.
  - ☐ a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
  - a. (means)
    - ☐ on paper
    - ☐ in electronic form
  - b. (time)
    - ☐ in the international application as filed
    - ☐ together with the international application in electronic form
    - ☐ subsequently to this Authority for the purposes of search
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2010/025464

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	12-18	YES
	Claims	1-11, 19-25	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-25	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims	None	NO

**2. Citations and explanations:**

Claims 1-11 and 19-25 lack novelty under PCT Article 33(2) as being anticipated by Hyde, Jr. (hereafter Hyde).

Referring to claim 1, Hyde discloses a method for preparing an implant site in bone (Abstract), comprising: establishing a reference axis (CH1) extending from said bone; creating a bore in said bone by reaming about said reference axis (Col. 3, Lns. 42-51; Figs. 2A-2R, 3 and 5); securing a guide block (guide assembly 12) about said articular surface (as in Fig. 3); establishing a first working axis (CH2) extending from said bone using said guide block (Col. 3, Lns. 42-51; Figs. 2A-2R, 3 and 5), said first working axis (CH2) is displaced from said reference axis (CH1; Figs. 2A-2R where CH2 is displaced from CH1); and creating a first socket (via core cutter 30) in said bone by reaming about said first working axis (Fig. 5), wherein said first socket partially overlaps with said bore (Figs. 2A-2R, 3 and 5).

Referring to claim 2, Hyde discloses all limitations of claim 1, and further discloses wherein said guide block comprises a body including a base portion and sidewall portions having a generally arcuate shaped exterior surface (Figs. 4A-4C) generally configured to engage with the saddle and ridge portions of a patient's trochlear region (Col. 22, Lns. 29-32 – The method and apparatus according to the present invention can generally be applied to any articular joint having at least two major bones. Further examples include, but are not limited to the... knee; Col. 10, Lns. 31-34).

Referring to claim 3, Hyde discloses all limitations of claim 2, and further discloses wherein securing said guide block further comprises advancing a protrusion extending generally from a body of said guide block into said bore (Figs. 5, 7, 8 and 10).

Referring to claim 4, Hyde discloses all limitations of claim 2, and further discloses wherein securing said guide block further comprises advancing at least one pin (pins 14) through a passageway (the unnumbered passageway formed about pins 14 in Figs. 3-5) in said body and into bone (Figs. 3-5, pin 14) proximate to said trochlear region (Col. 23, Lns. 39-42; Col. 10, Lns. 31-34).

Referring to claim 5, Hyde discloses all limitations of claim 2, and further discloses establishing a second working axis (CH2) extending from said bone using said guide block (Col. 3, Ln. 60 – Col. 4, Ln. 3.), said first working axis (CH1) is displaced from said reference axis (CH2) and creating a second socket in said bone (Col. 9, Lns. 10-18) wherein said second socket partially overlaps with said bore (Figs. 2L-2R) and wherein said first and second sockets and said bore are generally aligned along an inferior-superior plane of said articular surface (Figs. 2A-2R; Col. 23, Lns. 39-42).

Referring to claim 6, Hyde discloses all limitations of claim 2, and further discloses advancing a reamer through a cavity extending through said body of said guide block after said guide block is secured to said articular surface (Figs. 5 and 6); inserting a guide bushing into said cavity subsequent to advancing said reamer (as in Figs. 10 and 11), said guide block comprising a first excision passageway configured to receive a shaft of said reamer along said first working axis (as in Figs. 5, 6 and 7), wherein a said radial cutter of said reamer is disposed adjacent to said articular surface (Figs. 8, 9A, 9B, 14A, 14B, 23 and 24); and rotating said reamer within said first excision passageway and advancing said radial cutter into said articular surface to form a first socket (Figs. 8, 9A, 9B, 14A, 14B, 23 and 24; Col. 14, Lns. 1-5).

Referring to claim 7, Hyde discloses a system for repairing a defect on an articular surface of a patient's trochlear region (Col. 8, Lns. 38-41; Col. 23, Lns. 39-42), said system comprising: a guide block (guide assembly 12) comprising: a body having an exterior surface configured to engage (via pin 14) with the saddle portion and ridge portions of said patient's trochlear region (Col. 22, Lns. 29-32 – The method and apparatus according to the present invention can generally be applied to any articular joint having at least two major bones. Further examples include, but are not limited to the... knee); a protrusion extending generally from said body and configured to be received in a first bore formed in said articular surface along a reference axis (Figs. 5 and 6); and a first cavity extending through said body configured to establish a first working axis (CH2; Fig. 2A); wherein said exterior surface of said body and said protrusion are configured to secure the location of said guide block about said patient's trochlear region (Figs. 3-5; Col. 23, Lns. 39-42).

Referring to claim 8, Hyde discloses all limitations of claim 7, and further discloses wherein said body includes a base portion and sidewall portions having a generally arcuate shaped exterior surface (Figs. 4A-4C) generally configured to engage with the saddle portion and ridge portions of said patient's trochlear region, respectively (Col. 23, Lns. 39-42).

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2010/025464

**Supplemental Box**

**In case the space in any of the preceding boxes is not sufficient.**

Continuation of:

Referring to claim 9, Hyde discloses all limitations of claim 8, and further discloses further comprising a pin (14) and a first passageway (unnumbered passageway formed about pin 14 in Figs. 3-5) extending through said body configured to receive said first pin (Figs. 3-5), wherein said first pin is configured to engage bone proximate to said trochlear region (Col. 22, Lns. 29-32 – The method and apparatus according to the present invention can generally be applied to any articular joint having at least two major bones. Further examples include, but are not limited to the... knee), and wherein said exterior surface of said body, said protrusion, and said first pin extending through said first passageway are configured to secure the location of said guide block about said patient's trochlear region (Figs. 3-5; Col. 23, Lns. 39-42).

Referring to claim 10, Hyde discloses all limitations of claim 9, and further discloses further comprising a second pin (pin 14) and a second passageway (unnumbered passageway formed about pin 14 in Figs. 3-5) extending through said body configured to receive said second pin (Figs. 3-5), wherein said second pin is configured to engage bone proximate to said trochlear region (Col. 23, Lns. 39-42), and wherein said exterior surface of said body, said protrusion, and said first and said second pins extending through said first and second passageways are configured to secure the location of said guide block about said patient's trochlear region (Figs. 3-5; Col. 23, Lns. 39-42).

Referring to claim 11, Hyde discloses all limitations of claim 7, and further discloses wherein said protrusion is configured to be received in said first bore in a generally interference-type fit (Figs. 3-5).

Referring to claim 19, Hyde discloses all limitations of claim 7, further comprising a second cavity extending (Figs. 2H-2J, 2N and 2O) through said body configured to establish a second working axis (CH2) displaced from said reference axis (CH1), wherein said second working axis is configured to define a center point of a third bore (AH1, AH2) in said articular surface.

Referring to claim 20, Hyde discloses the system of claim 19, further wherein said first and second cavities and said protrusion are configured to be generally aligned along an inferior-superior plane of said articular surface (Figs. 2H-2J, 2N, 2O, 3, 4A-C and 5).

Referring to claim 21, Hyde discloses all limitations of claim 7, and further discloses further comprising a drill guide (Col. 7, Lns. 4-7 – The first non-articular surface SA is preferably superficial to a surface of a body part such as extremities and, therefore is more accessible to a surgeon for commencing drilling the first bone) configured to establish said reference axis substantially perpendicular to said articular surface (as in Figs. 2C-2F, 2K, 2N, and 2P-2R).

Referring to claim 22, Hyde discloses the system of claim 21, further wherein said drill guide (guide assembly 12) comprises: a cannulated shaft (cylindrical shaft 31); and a proximal end comprising a first and second groove contacting tip (pins 14) configured to contact said articular surface in saddle the saddle portion of said trochlear region along the inferior-superior plane and a first and second tip configured to contact said articular surface generally along the inferior-superior plane (Figs. 3 and 5; Col. 22, Lns. 29-32 – The method and apparatus according to the present invention can generally be applied to any articular joint having at least two major bones. Further examples include, but are not limited to the... knee).

Referring to claim 23, Hyde discloses the system of claim 22, further wherein said first and said second groove contacting tips (pins 14) are fixedly coupled to the cannulated shaft (cylindrical shaft 31; Figs. 3 and 5) and wherein said first and said second ridge contacting tips are moveable with respect to said cannulated shaft and are biased towards to an extended position (note the relative positions of pins 14 and cylindrical shaft 31 in Figs. 3 & 5).

Referring to claim 24, Hyde discloses the system of claim 22, further comprising a reference pin (guide wire 10) configured to be received through said cannulated shaft (cylindrical shaft 31) and secured into bone beneath said articular surface generally along said reference axis (Figs. 3 & 5; Col. 22, Lns. 29-32 – The method and apparatus according to the present invention can generally be applied to any articular joint having at least two major bones. Further examples include, but are not limited to the... knee).

Referring to claim 25, Hyde discloses the system of claim 24, further comprising an excision device (core cutter 30), said excision device comprising a cannulated shaft (cylindrical shaft 31) and a radial cutter (annular cutting element 32) comprising a cutting surface (teeth 33) disposed about a distal end of said shaft, wherein said excision device is configured to be received over said reference pin (guide wire 10) to form said first bore (CH1), said first bore being centered around said reference axis (Fig. 11 at anchoring screw 86).

Claims 12-17 lack an inventive step under PCT article 33(3) as being obvious over Hyde, Jr. (hereafter Hyde) in view of Ek.

Referring to claim 12, Hyde discloses all limitations of claim 7, but is silent on further comprising a first guide bushing configured to be removably received in said first cavity, said first guide bushing defining a first excision passageway generally aligned with said first working axis. Ek, however, teaches of a system and method for joint resurface repair (Title) comprising a first guide bushing (10) configured to be removably received in a first cavity (Para. [0166]), said first guide bushing defining a first excision passageway (16) aligned with said first working axis (as in pin 20 in Figs. 9a and 9b). It would have been obvious to one of ordinary skill in the art to incorporate the guide bushing of Ek with the system of Hyde for the purpose of protecting a passageway in bone from unintended damage.

Referring to claim 13, Hyde in view of Ek discloses all limitations of claim 12. Hyde fails to further disclose wherein said first guide bushing is configured to threadably engage said first cavity. Ek, however, further teaches wherein said first guide bushing is configured to threadably engage said first cavity (Ek, Figs. 1-3b). It would have been obvious to one of ordinary skill in the art to provide wherein said first guide bushing is configured to threadably engage said first cavity, as taught by Ek, to the system of Hyde, for the purpose of securing a bushing in a passageway.

Referring to claim 14, Hyde in view of Ek discloses all limitations of claim 12. Hyde further discloses an excision device (Hyde, 70), said excision device comprising: a shaft (Hyde, 73); and a radial cutter comprising a cutting surface (Hyde 74 and 75) disposed about a distal end of said shaft (Hyde Fig. 12B).

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2010/025464

**Supplemental Box**

**In case the space in any of the preceding boxes is not sufficient.**

Continuation of:

Referring to claim 15, Hyde in view of Ek discloses all limitations of claim 14. Hyde further discloses forming a second bore (Hyde CH2) in said articular surface partially overlapping with said first bore (Hyde Figs. 2K-2R), wherein said second bore is centered around said second working axis (Hyde Figs. 2K-2R), but fails to explicitly disclose wherein said first excision passageway is configured to receive said shaft of said excision device. Ek, however, further teaches wherein said first excision passageway is configured to receive said shaft of said excision device (as in Ek pin 20 passing through channel 16 in Figs. 9a and 9b). It would have been obvious to one of ordinary skill in the art to provide wherein said first excision passageway is configured to receive said shaft of said excision device, as taught by Ek, to the system of Hyde, for the purpose of protecting the excision passageway from damage by the reamer.

Referring to claim 16, Hyde in view of Ek discloses all limitations of claim 15. Hyde further discloses wherein said radial cutter is disposed adjacent to said articular surface (Hyde Figs. 2A-2R), but fails to explicitly disclose wherein said guide bushing is configured to be received in said first cavity such that said shaft of said reamer extends through said first excision passageway. Ek, however, further teaches wherein said guide bushing (10) is configured to be received in said first cavity (Ek, Para. [0161]) such that said shaft (20) of said reamer extends through said first excision passageway (16; as in Ek Figs. 9a and 9b). It would have been obvious to one of ordinary skill in the art to provide wherein said guide bushing is configured to be received in said first cavity such that said shaft of said reamer extends through said first excision passageway, as taught by Ek, to the system of Hyde, for the purpose of protecting the excision passageway from damage by the reamer.

Referring to claim 17, Hyde in view of Ek discloses all limitations of claim 16. Hyde further discloses wherein said first cavity is configured to allow said radial cutter to pass through to said articular surface in a direction along said second working axis (as in Hyde Figs. 2A-2R).

Claim 18 lacks an inventive step under PCT article 33(3) as being obvious over Hyde, Jr. (hereafter Hyde) in view of Ek and Augustino et al. (hereafter Augustino).

Referring to claim 18, Hyde in view of Ek discloses all limitations of claim 17, but are silent on further comprising indicia on said shaft configured to be aligned with said first excision passageway to define depth of said bore. Augustino, however, teaches of facet joint prosthesis measurement and implant tools (Title) comprising indicia (407) on a shaft (402) configured to aligned with an excision passageway (Figs. 5A, 5B and 6C, Col. 5, Lns. 41-46). It would have been obvious to one of ordinary skill in the art to incorporate indicia on said shaft configured to be aligned with said first excision passageway to define depth of said bore, as taught by Augustino, in the system of Hyde, for the purpose of finding the appropriate or desirable depth of a bore.

Claims 1-25 meet the criteria set out in PCT Article 33(4) and thus have industrial applicability because the subject matter claimed can be made or used in industry.

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*, Annex B).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, International Phase, paragraph 296).

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

**When?** Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

**How?** Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet or sheets containing a complete set of claims in replacement of all the claims previously filed must be submitted.

Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively in Arabic numerals (Section 205(a)).

**The amendments must be made in the language in which the international application is to be published.**

#### What documents must/may accompany the amendments?

**Letter (Section 205(b)):**

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

**The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.**

## **SEQUENCE LISTINGS AND TABLES RELATED THERETO IN INTERNATIONAL APPLICATIONS FILED IN THE U.S. RECEIVING OFFICE**

The Administrative Instructions (AIs) under the Patent Cooperation Treaty (PCT), in force as of **July 1, 2009**, contain important changes relating to the manner of filing, and applicable fees for, sequence listings and/or tables related thereto (sequence-related tables) in international applications. The complete text may be accessed at <http://www.wipo.int/pct/en/texts/index.htm>.

**Effective July 1, 2009**, Part 8 and Annex C-*bis* will no longer form part of the AIs. Part 8 was introduced in 2001 as a temporary solution to problems arising from the filing of very large sequence listings on paper and provided for a *sequence listing forming part of the international application* to be filed in electronic form on physical medium (e.g., CD), together with the remainder of the application on paper. In 2002, Part 8 was expanded to include sequence-related tables and Annex C-*bis* was added to provide technical requirements. All applicants may now file complete international applications in electronic form, eliminating the need for these temporary provisions.

### **I. AIs PART 8 AND ANNEX C-BIS DELETED AS OF JULY 1, 2009**

- A) **Sequence-related tables cannot be filed as a separate part of the description or in text format.** They must be provided as an integral part of the international application either:
- in PDF format as part of an international application filed in electronic form via EFS-Web; or
  - on paper as part of an international application filed on paper.
- B) **A *sequence listing forming part of an international application* may be provided either:**
- in electronic form, as part of an international application filed in electronic form via EFS-Web, in
    - Annex C/ST.25 text format (preferred), or
    - PDF format; or
  - on paper as part of an international application filed on paper.
- C) **A *sequence listing not forming part of the international application* (for search under PCT Rule 13ter) in Annex C/ST.25 text format**
- is not required where the *sequence listing forming part of the international application* was filed in Annex C/ST.25 text format as part of an international application filed in electronic form via EFS-Web
  - is required for search where the *sequence listing forming part of the international application* was filed in PDF
  - is required for search on physical medium (e.g., CD) where the *sequence listing forming part of the international application* was filed on paper as part of an international application filed on paper.

### **II. CALCULATION OF THE INTERNATIONAL FILING FEE AND FEE REDUCTION UNDER AI § 707**

- A) **A sequence-related table** must form an integral part of the international application and will incur FULL page fees with no upper limit.
- B) **A *sequence listing forming part of an international application* filed:**
- via EFS-Web in Annex C/ST.25 text format will incur NO page fees;
  - on paper or in PDF format will incur FULL page fees with no upper limit.

### **III. AVAILABILITY OF SEQUENCE LISTINGS SUBMITTED FOR SEARCH UNDER PCT RULE 13TER**

International Searching Authorities will be required to transmit to the International Bureau a copy of an Annex C/ST.25 text format sequence listing provided for search under PCT Rule 13ter. Any such sequence listing will be made available on PATENTSCOPE® (*sequence listings forming part of the international application* are already available).

### **IV. JULY 2009 REQUEST (PCT/RO/101)**

The Request now has two options for the last sheet: one for paper filings; and one for EFS-Web filings. The July 2009 Request may be accessed at <http://www.wipo.int/pct/en/forms/index.htm>.